EXIT STRATEGIES FOR THE FEDERAL RESERVE

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Any opinions expressed here are my own and do not necessarily reflect those of the Federal Open Market Committee members.
THE MEANING OF EXIT

“Exit strategies” for the Federal Reserve have been widely discussed.

What does this mean?

This is the topic for today.
Monetary policy is very accommodative now.
It will remain very accommodative for an extended period.
This is appropriate, given low inflation and weak economic conditions.
“Exit strategy” is about plans to unwind as the economy improves.
- Without a strategy, expectations of high inflation may develop.
- This could be counterproductive today if it causes longer-term interest rates to rise.
ACCOMMODATIVE MONETARY POLICY

- Federal funds rate target effectively zero since December 2008.
  - The FOMC has committed to keep the target low “for an extended period.”
- An aggressive asset purchase program.
  - Agency debt: up to $200 billion.
  - Agency mortgage-backed securities: up to $1.25 trillion.
  - Longer-maturity Treasuries: up to $300 billion.
  - Total: up to $1.75 trillion.
- The asset purchase program is causing the monetary base to expand rapidly.
Liquidity Programs

- Central banks traditionally lend extensively in a crisis.
  - This is the “lender of last resort” function of monetary policy.
- These programs are designed to improve market functioning during the crisis.
- More temporary in nature.
- As market functioning improves, these programs are not as necessary.
  - Liquidity programs also cause the monetary base to rise rapidly, but are easier to unwind.
THREE SEPARATE ISSUES

- The fading need for liquidity facilities.
- The ongoing asset purchase program.
- Exit from zero short-term nominal interest rates.
THE LIQUIDITY FACILITIES

- Depository institution facilities
  - Primary credit.
  - Term Auction Facility (TAF).
  - Foreign currency swaps with foreign central banks.
- Primary dealer facilities—authorized under 13(3).
  - Primary Dealer Credit Facility (PDCF)
  - Term Securities Lending Facility (TSLF).
- Market and institution facilities—authorized under 13(3).
  - Commercial Paper Funding Facility (CPFF).
  - Money Market Investors Funding Facility (MMIFF).
  - Term Asset-Backed Securities Loan Facility (TALF).
The liquidity facilities are intended to improve market functioning. By many metrics, financial markets are less strained than they have been. To be sure, some stress remains.
AN EXAMPLE OF IMPROVED MARKET FUNCTIONING
Many programs are being used less intensively than in the recent past.

Core idea: let these programs continue to wind down naturally.

Keep the programs in place in case financial turmoil resumes.

Plan to end the 13(3) programs next year.
TERM AUCTION FACILITY

Term Auction Credit

Billions of $

Dec-07  Feb-08  Apr-08  Jun-08  Aug-08  Oct-08  Dec-08  Feb-09  Apr-09  Jun-09

Source: Federal Reserve.
COMMERCIAL PAPER FUNDING FACILITY

Commercial Paper Funding Facility
Net Portfolio Holdings

Billions of $

Oct-08  Nov-08  Dec-08  Jan-09  Feb-09  Mar-09  Apr-09  May-09

Source: Federal Reserve.
FOREIGN CURRENCY SWAPS

Central Bank Liquidity Swaps

Source: Federal Reserve.
**What the Federal Reserve Did**

- Announcement last Thursday, June 25, 2009.
- Extended the AMLF, CPFF, PDCF, swap lines, and TSLF to February 1, 2010.
- Changed some auction terms, including reducing the TAF auction amount from $150 billion to $125 billion.
- The expectation is that most or all of these programs will end next year if financial conditions continue to improve.
- The Fed stands ready to change terms or extend programs should financial turmoil resume.
Outright asset purchases

- During the first half of 2009 the FOMC has announced that the Fed may make up to $1.75 trillion in outright asset purchases.
- The purchases are in agency debt, agency MBS, and longer-term Treasuries.
- This is being financed by reserve creation, “printing money,” after September 2008.
- The monetary base is expanding rapidly.
- This is one way to move inflation higher in an environment where inflation is “too low” and short-term nominal interest rates are near zero.
THE NEAR-TERM DEFlation THREAT

- Short-term goal is to avoid a deflation trap in 2009.
- U.S. Headline CPI inflation measured from one year ago is negative.
- Japan today: BOJ forecasts declining prices for almost two years.
- A global threat.
Five-year inflation compensation calculated from TIPS yields.
There are liquidity and other adjustments that could be made.
This number moved closer to the two percent level during the spring.
It was very negative late last year.
Still, markets are not expecting a lot of inflation over the next five years by this measure.
FIVE-YEAR INFLATION COMPENSATION

5-Year Nominal minus 5-Year TIP Rate

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Source: Federal Reserve Board / Haver Analytics.
The medium-term inflation threat

- The monetary base increased rapidly after September 2008.
- It will have more than doubled by the end of 2009.
  - Runoff from liquidity facilities winding down is substantial.
  - But the increase from planned asset purchases is just as large or larger.
  - Once the purchases are complete, the monetary base will have doubled or more.
- This is no small number.
- Unprecedented in U.S. postwar monetary history.
In teaching money and banking, we say “permanently doubling the money supply eventually doubles the price level.”

It may take some time.

Let’s suppose it takes a decade.

That would be 7 percent inflation per year on average.

Probably more later than sooner.

This gives a rough idea of the type of threat we face.
**Why worry now?**

- The problem is that if expectations of inflation feed into today’s longer-term yields, those yields will rise today.
- That could hamper recovery prospects today.
- Similarly we have large budget deficits today in the U.S., in part to counter the recession.
- Appearances that the Fed might “monetize the debt” can cause inflation expectations to rise.
COPING WITH THE MEDIUM-TERM INFLATION THREAT

- Alternatives to creating reserves and adding to the monetary base:
  - Assets could be sold from the SOMA portfolio to finance purchases.
  - The Treasury’s supplementary financing account.
  - Fed bills.

- Tools for managing reserves:
  - Interest on reserves.
  - Reverse repos.

- Manage the assets.
  - Allow the assets to mature.
  - Sell assets if inflation becomes a more pressing problem.
Since September 2008, the Fed has used reserve creation to fund programs.

Before September 2008, the Fed sometimes sold from the SOMA portfolio to finance programs.

The ability to do this now is limited.

The asset purchase program, in particular, has become too large for this option.
The Treasury has at times issued debt and put the proceeds on deposit at the Fed.

This avoids reserve creation and the expansion of the monetary base.

The debt ceiling, which requires a vote of Congress, puts limits on this process.

With large fiscal deficits, funding from this source seems unlikely.
**Alternative financing: Fed bills**

- The Fed could issue its own debt, outside the federal debt ceiling.
- Some foreign central banks do this.
- Requires Congressional action.
- Large fiscal deficits seem to make this option unlikely as well.
- There is also a conceptual question: what is backing the Fed bills, future taxes or future inflation?
TECHNICAL TOOLS

- Instead of avoiding reserve creation with alternative financing, we could just manage the reserve levels.
- There are tools for managing reserves.
  - Interest on reserves helps keep reserves at the Fed from moving into the money supply.
  - Reverse repurchase agreements.
- These are under study.
- Interest on reserves is the most promising and has parallels in foreign central bank operation.
- But, interest on reserves was not effective in putting a floor on the federal funds rate during late 2008.
- An untested system.
MANAGE THE ASSETS

- Normally, the Fed holds a shorter duration portfolio.
- Even with the longer duration, the Fed can simply hold assets to maturity.
- It takes quite a while, the better part of a decade.
- Of course assets can also be sold.
- Selling assets before the economy has improved is an important concern.
  - This is a standard problem in monetary policy.
SUMMARY FOR ASSET PURCHASE PROGRAM

- The asset purchase program is large and is being financed by reserve creation.
- Alternative financing seems unlikely.
- Technical tools for managing reserves are untested.
  - A rigorously-designed interest on reserves program may be effective.
- Selling assets as appropriate is the most likely option.
SLACK

- The output gap will have an influence on inflation going forward.
- Traditional measures of the output gap are large, and will take years to close.
- This may temper the idea that monetary base expansion will be inflationary.
- I would put more weight on inflation expectations than on the output gap.
- The gap is notoriously difficult to measure and traditional conceptions are questionable.
The FOMC has said it will keep the federal funds target low “for an extended period.”

Any movement on this is contingent on both inflation and real economic developments.

Should economic performance improve and inflation begin to rise ...

... the promise is to maintain zero rates longer than might be indicated by simple rules of thumb.

This is important for markets to understand.

This also means that most of the action on monetary policy will be with the asset purchase program in the near term.
A POLICY RULE FOR ASSET PURCHASES

- This is an unusual period for U.S. monetary policy.
- With rates at zero, attention has appropriately focused on quantitative approaches.
- We know that ability to communicate future policy helps current policy work.
- I would like to see a policy feedback rule that could describe in rough terms what level of asset purchases is appropriate in the current environment.
- Feedback means as a function of the current state of the economy.
- We are not there yet, but I want to continue to encourage staff work in this direction.
- Without this, we have been forced to make judgement calls.
CONCLUSION

- There has been a lot of discussion about federal reserve “exit.”
- Exit from the liquidity programs seems relatively clear.
- Liquidity program run-off will draw down the monetary base ...
- ... but the monetary base will still more than double (relative to September 2008) due to the asset purchase program.
- Exit from the asset purchase program may have to rely on selling assets as appropriate.
- A policy feedback rule for asset purchases should be the goal.